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AUTHOR Shapiro, Lauren R.; Hudson, Judith A.
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ABSTRACT

Factors that may influence the picture-elicited narrative production of 4-year-old children were examined. Subjects were 70 children of 4 years of age who told narratives about two familiar events: baking cookies and going to the beach. Of the sample, 22 children in a description condition described each of 6 line drawings for each event. Another 22 children in a standard condition narrated stories without previewing the pictures. In The remaining 26 children, in a preview condition, previewed the pictures before narrating stories. For half of the children in each condition, the pictures included a problem-resolution sequence; for the other half, the pictures included an uneventful sequence. Findings revealed that 4-year-olds differentiated between descriptions and stories in the complexity of their narratives and in their use of tense and pronouns. The episodic structure of the narratives influenced measures of linguistic cohesion with the result that children produced more coherent stories and tended to use a more complex pronoun strategy in the problem-resolution version. The preview condition, in comparison to the description condition, resulted in improved stories. It is concluded that 4-year-olds are capable of narrating problem-resolution stories when pictures are used as aids. (Author/RH)

COHESION AND COHERENCE IN PRESCHOOL CHILDREN'S PICTURE-ELICITED NARRATIVES

Lauren R. Shapiro & Judith A. Hudson

Rutgers, the State University of New Jersey

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Abstract

Young children are not as capable of producing cohesive stories which also conform to "ideal" episodic structure. In comparison with older children, 4-year-olds use less advanced linguistic devices and their narratives are more similiar to descriptions than stories. This study examined various factors which might influence 4-year-olds' picture-elicited narrative production. Seventy 4-year-olds told narratives about 2 familiar events, baking cookies and going to the beach. 22 children described each of the 6 line drawings for each event -- the description condition. 22 children narrated stories without previewing the pictures -- the standard condition. The remaining 26 children previewed the pictures before narrating stories --the preview condition. The order of event presentation was counterbalanced. For half of the children in each condition, the pictures included a problem-resolution sequence (problem versions) while for the other half, the pictures included an uneventful sequence (script versions). Results showed that 4-year-olds differentiated between descriptions and stories in the complexity of their narratives and their use of tense and pronouns. Moreover, the episodic structure of the narratives influenced measures of linguistic cohesion such that children produced more coherent stories and tended to use a more complex pronoun strategy in the problem version. Thus, 4-year-olds are capable of narrating problem- resolution stories when pictures are used as aids.

INTRODUCTION

Previous research findings suggest that children younger than age 5 or 6 are not as capable of producing story narratives which are both cohesive and coherent. In establishing coherence, the child must employ story schema to structure the content in the narrative. Cohesion is established by employing linguistic reference devices, such as complex phrase structure, anaphoric pronoun strategy, and temporal and causal connectives to tie a span of sentences together to form a whole.

Several researchers indicate that young children's story narratives lack some of the basic constituent units of a story and more closely resemble descriptions of an event sequence. Moreover, the findings indicate that four-year-olds do seem to be able to use story schema to comprehend and recall narratives but not to guide story production. However, there is some evidence which suggests that young children may still be in the process of developing story schema. They are able to distinguish stories from other types of narratives (i.e., descriptions) by their use of past tense and formal story-telling conventions. It is therefore possible that preschool children can construct coherent stories if given some support. This study used a picture-book elicitation format to study the effects of pictures and variation in story topic on preschool children's story production.

Hypotheses

The purpose of this study was to examine two factors, previewing and problem-resolution sequence, which might influence 4-year-olds' narrative performance. It was expected that children would differentiate descriptions from stories by the length, complexity, use of past tense, and strategy for pronoun usage in their narratives.

Hypothesis 1 predicted that the stories should be longer, more complex, in the past tense,

and include more advanced pronoun strategies than picture descriptions. Moreover, the effects of previewing and inclusion of problems should influence the type of connectives and pronoun strategy used (cohesion) and the story structural elements included (coherence) in the stories.

Hypothesis 2 predicted that stories would be more coherent and cohesive when children **a)** previewed the picture sequence prior to production, and **b)** used the problem version. However, it was not expected that stories would differ in use of past tense since that is the tense stories are traditionally told in or in the length of the stories which is somewhat constrained by the number of pages.

Method

Subjects

The subjects were 70 children (mean age 54 months) from middle class, suburban families attending one of two private nursery schools. An equal number of boys and girls were randomly selected from those children whose parents provided written consent.

Stimulus Materials

Two original picture-booklets, each consisting of 6 clearly interpretable black-and-white pictures (8 1/2 X 11 inches) without text, were assembled to create two event sequences, going on a trip to the beach and baking cookies (see Figure 1 for an example). The pictures were placed on individual pages and presented in bound books.

Procedure

An experimenter saw each child individually in a quiet room in their school. First an example of a make-believe narrative in a picture- booklet was shown to the children. Then the children were asked to provide either descriptions or stories. For the description condition (n = 22), children were told, " Look at each of these pictures and tell me what's happening. I'll turn the

pages so I can see the pictures too." The remaining 48 children produced stories as they viewed the pictures either in the standard condition (n = 22) or in the preview condition (n = 26). Only the children in the preview condition were allowed to preview the entire picture sequence prior to narration. They were told, " First I want you to look at each of these pictures. I'll turn the pages so I can see the pictures too." The children in both the preview and standard conditions were asked, "Tell me a make-believe story using the pictures in this booklet."

A probe question was asked at the end of the narrative, "Is there anything else you want to tell me about this story ?" The order of presentation for each event was counterbalanced. For half of the children in each of the three conditions, the pictures included a problem- resolution sequence (problem versions) while for the other half, the pictures included a typical, but uneventful sequence (script versions). The children's narratives were audio-tape recorded and transcribed for analysis.

Coding

Each narrative was first coded for the number of propositions (P), that is the number of statements witn an argument and a predicate, and the number of subordinate clauses (SC) that is dependent clauses.

Story complexity was indicated by both the number of clauses (CL = P + SC) as a measure of length and the subordinate index (SI = SC / CL) as a measure of complexity.

Tense used for each proposition was coded as present, past, or past progressive and then proportions were calculated. However only the unit score for past tense (past and past progressive) was used.

Cohesion was indicated by the use of connectives which joined the clauses together. There was **simple conjuction** (and), **temporal conjuction** (now, then, first, next, as soon as), and **causal and adversive conjuction** (so, because, if, but, or).

Coherence was indicated by the episodic structure or story elements. **Story beginnings/endings** consisted of traditional openings/closings (e.g., Once upon a time, Happily ever after). **Settings/descriptions** included information about the characters (i.e., physical appearance) and background information (i.e., locale). **Actions** were characterized as events (e.g., she was crying), excluding repairs. **Internal states/reactions** included the character's thoughts, emotional responses, or intentions (e.g., she was sad; he wanted to swim). **Obstacles** were events that interupt action and incude an unexpected result or problem sequence (e.g., the cookies got burned). **Repairs** were attempts by the characters to rectify the obstacle (e.g., so they went to the store to buy new cookies). **Intrusions** were statements with additional information which was not depicted but was included into the story (e.g., the shark took his glasses, It's Xmas time).

There were 6 types of **pronoun strategy** identified. **Confused** strategy was indicated if the child used pronouns but reference to characters was ambiguous or contextually determined. **They** strategy was simply indicated by the use of they as the only pronoun. **Noun Phrase** strategy was indicated when the child used proforms and avoided using pronouns. **Thematic Subject** strategy was indicated when the child identified one character by a pronoun (he/she) and referred to everyone else in proform or as 'they'. **Anaphoric** strategy was indicated when 'he' or 'she' was used for more than one character and the reference was clear. **Indeterminable** was indicated when the child's reference strategy was not recognizable.

Results

To examine hypothesis 1 that children differentiate stories from descriptions two 2 (type) X 2 (version) ANOVAs were conducted. ANOVA 1 compared descriptions to standard stories whereas ANOVA 2 compared descriptions to previewed stories. To examine hypothesis 2 that stories would be influenced by previewing and inclusion of problems a 2 (condition) X 2 (version)

ANOVA was performed (ANOVA 3). Performance across both events was combined for all analyses.

Story length and complexity

ANOVA 1 and ANOVA 2 were performed with the number of clauses and subordinate index across events as the dependent measures. There were no significant effects for ANOVA 1 but ANOVA 2 yielded two significant main effects of narrative type for the number of **clauses**, $F(1, 44) = 4.68$, $p < .036$ and for **subordinate index**, $F(1,44) = 4.26$, $p < .045$. These findings indicate that the preview story narratives were both longer and more complex than the description narratives (see Table 1).

Past tense

ANOVA 1 and 2 were performed with the proportion of **past tense** across events as the dependent measure (see Figure 2). There was a significant main effect of narrative type for ANOVA 1, $F(1,40) = 5.63$, $p < .02$, and ANOVA 2, $F(1,44) = 11.36$, $p < .002$. These findings indicate that the past tense is used more for stories in the standard (.28) and preview (.37) conditions than for descriptions (.11). Moreover, there was a significant main effect of version in ANOVA 2, $F(1,44) = 4.33$, $p < .04$, indicating that past tense was used more in the problem (.32) than the scripted (.16) version.

Cohesion: Pronoun Strategy

All three ANOVAs were performed on each child's proportional use of each type of pronoun strategy (see Table 2). ANOVA 1 yielded a significant main effect of version for the **Thematic Subject Strategy**, $F(1,40) = 4.10$, $p < .05$, indicating that it was used more in the problem (.55) than scripted (.32) version narratives. ANOVA 2 yielded a significant main effect of version, $F(1,44) = 7.04$, $p < .01$, and of type, $F(1,44) = 4.89$, $p < .03$, for the **They Strategy**. These findings indicate that the 'They' pronoun strategy was used more in both the scripted version narratives (.39) and in descriptions (.37) than in the problem version narratives (.14) and

previewed stories (.16). ANOVA 3 also yielded a significant main effect of version for the **They Strategy**, F (1,44)= 4.69, $p < .04$. This finding indicated that 'They' was used more in stories with the scripted (.27) than with the problem (.09) version .

Cohesion: Use of connectives

ANOVA 3 was conducted on the frequency of use of simple, temporal, and causal/adversive conjuctions averaged across events (see Table 3). There was a significant main effect of version for the use of the less advanced temporal connective, '**now**', F (1,44)= 9.42, $p < .004$. This finding indicates that 'now' was used more in the scripted (2.80) version than in the problem (1.01) version.

Coherence: Episodic structure

ANOVA 3 was performed on the frequency of inclusion of each of the 6 story elements across events (see Table 4). There were 4 significant main effects of version for **action**, F (1,44)= 7.92, $p < .007$; for **obstacles** , F (1,44)= 39.03, $p < .00$; **repairs**, F (1,44)= 50.93, $p < .00$; and for **intrusions**, F (1,44)= 8.86, $p < .005$. There were more actions and intrusions in the scripted version but more obstacles and repairs in the problem version. In addition, there was a significant main effect of condition, F (1,44)= 4.77, $p < .03$, and a significant interaction, F (1,44)= 4.77, $p < .03$, for **intrusions**. These findings indicate that more intrusions were included in the standard condition, particularly with the scripted version.

Discussion

There was some support for Hypothesis 1 that children could differentiate stories from descriptions. Past tense was used more for stories than descriptions. Moreover, the previewed stories were longer and contained more subordinate clauses than descriptions indicating a higher story complexity. Children used a less complex pronoun strategy of referring to all characters as they more often in descriptions than in previewed stories.

There was also some support for Hypothesis 2b (effects of embedded problems). Not surprisingly, children included more obstacles and repairs in the problem version. However, in the scripted versions they included more actions and intrusions, that is, they added obstacles that were not depicted, but used less advanced cohesive devices, specifically the 'They' pronoun strategy and connective 'now'. Children also used the more advanced 'Thematic Subject' pronoun strategy, that is they used pronouns to identify a thematic subject, more often in the problem version narratives.

Contrary to expectations (Hypothesis 2a), previewing did not enhance cohesion or coherence in stories. Moreover, the stories produced in the standard condition, especially with the scripted version, included more intrusions than those produced int hte preview condition. This provides some evidence that children expect that stories contain problems and suggests that when the picture sequence doesn't include an obstacle then children are apt to provide one.

Thus, 4-year-olds can differentiate between descriptions and stories and are capable of incorporating problem-resolution sequences into their narratives when pictures are used as aids. Further, the opportunity to preview the picture sequences improved their stories as compared with descriptions. Interestingly, the episodic structure of the narratives influenced measures of linguistic cohesion such that children used a more advanced pronoun strategy when narrating stories with a problem-resolution structure.

Table 1
Length and Complexity for each condition

	Condition		
	Description	Standard	Preview
Clauses			
Problem	18.09	25.09	25.85
Scripted	20.64	21.55	26.00
Subordinate Index			
Problem	.05	.09	.15
Scripted	.10	.08	.11

Table 2
Mean Proportion of Pronoun Strategy Use

	Condition		
	Description	Standard	Preview
Confused			
Problem	.09	.18	.12
Scripted	.14	.18	.15
They			
Problem	.23	.14	.04
Scripted	.50	.27	.27
Noun Phrase			
Problem	.09	.00	.15
Scripted	.00	.05	.00
Indeterminable			
Problem	.09	.00	.08
Scripted	.00	.14	.00
Thematic Subject:			
Problem	.45	.64	.46
Scripted	.32	.32	.46
Anaphoric:			
Problem	.05	.05	.15
Scripted	.05	.05	.12

Table 3
Cohesion- Type of Connectives

	Condition		
	Description	Standard	Preview
Simple Conjuction-(and)			
Problem	4.27	6.00	6.38
Scripted	5.00	4.45	7.77
Temporal Conjuction			
Beginning level-(now)			
Problem	1.91	1.00	.15
Scripted	3.82	2.82	2.77
Advanced level-(then, next, after).			
Problem	.73	2.00	3.92
Scripted	2.27	3.36	2.08
Causal and Adversive Conjuction-(so, but, if)			
Problem	.64	.82	2.08
Scripted	1.00	.91	1.85

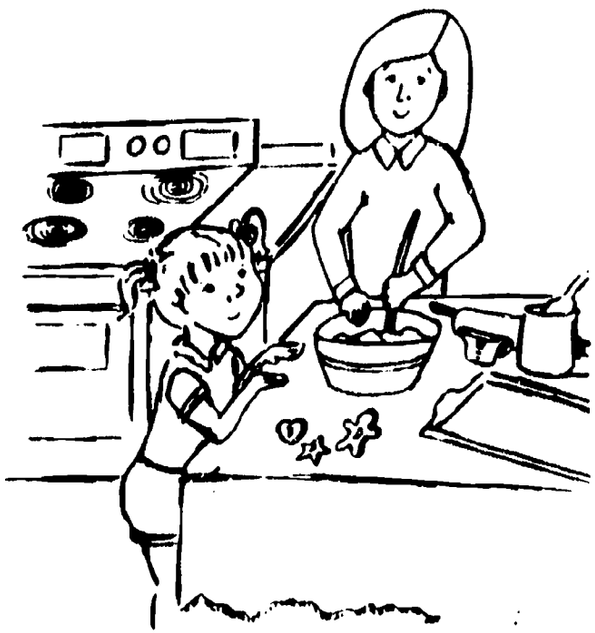
Table 4
Coherence- Episodic Structure

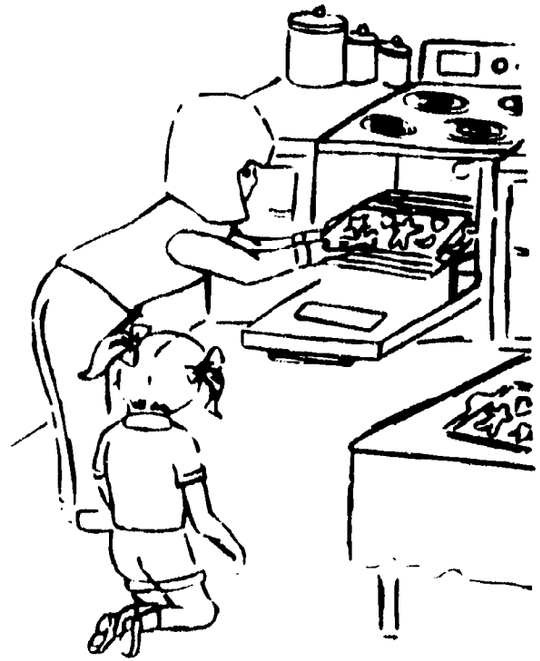
	Condition		
	Description	Standard	Preview
Beginnings/Endings			
Problem	.18	.18	.54
Scripted	.09	.64	.31
Setting/Description			
Problem	2.27	4.64	4.38
Scripted	3.45	3.73	3.54
Action			
Problem	9.45	11.00	11.46
Scripted	12 .91	13.64	16.31
Internal States/Reactions			
Problem	.91	1.27	1.00
Scripted	.55	.36	1.00
Obstacles			
Problem	1.18	1.73	1.62
Scripted	.18	.36	.00
Repairs			
Problem	2.18	3.00	2.62
Scripted	.00	.00	.15
Intrusions			
Problem	.18	.00	.00
Scripted	.55	1.00	.15

Figure Captions:

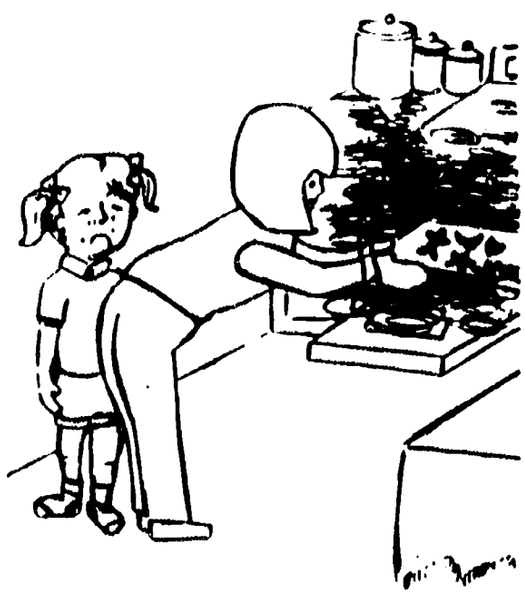
Figure 1. Examples of Picture-Book Sequences a.) Baking Cookies, Problem Version, b.)Trip to the Beach, Scripted Version.

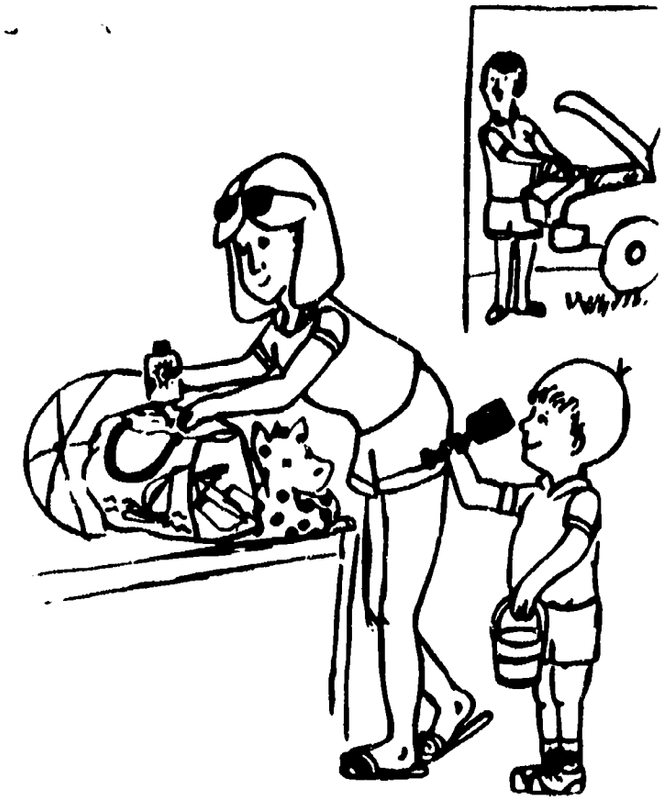
Figure 2. Proportion of Past Tense.

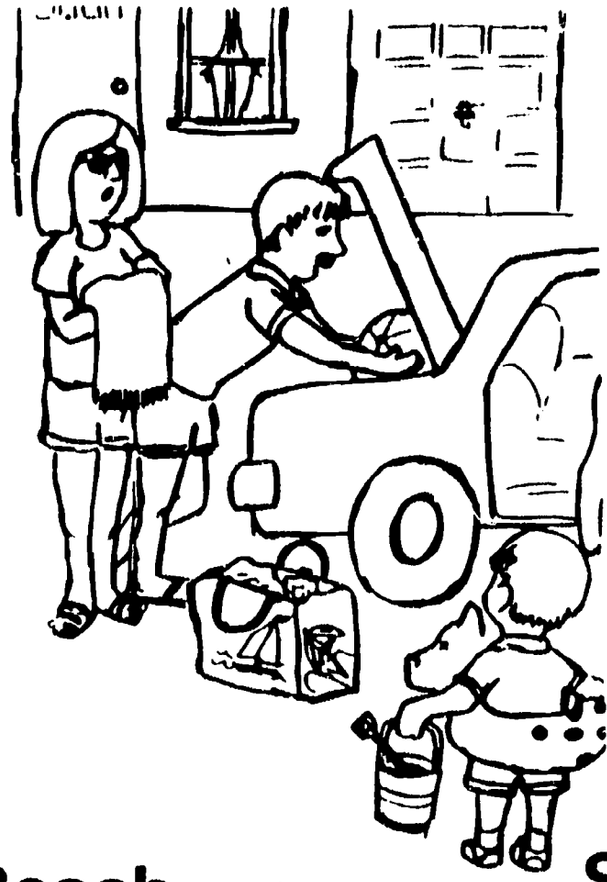


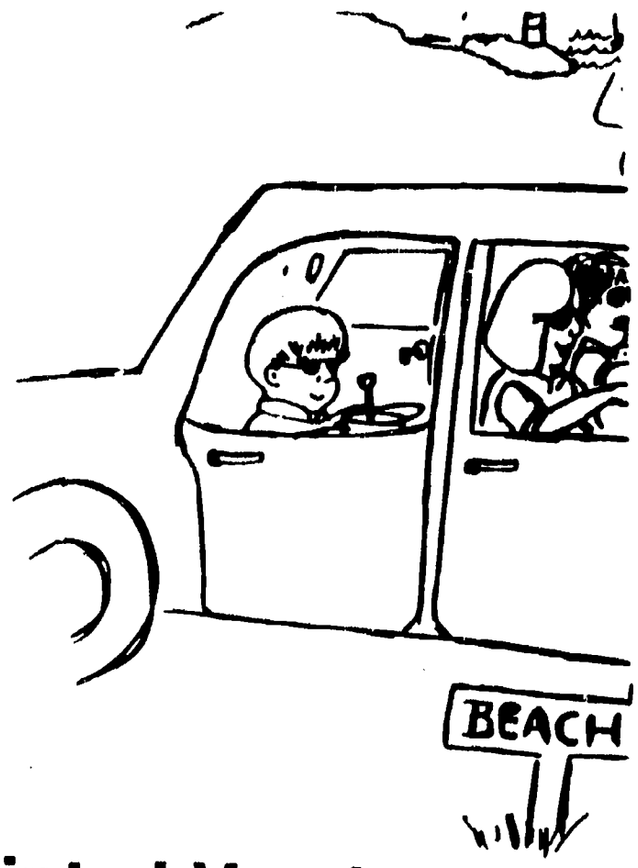


Baking Cookies, Problem Version

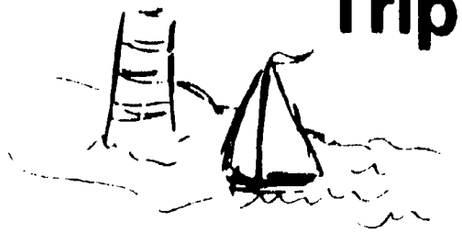








Trip to the Beach, Scripted Version



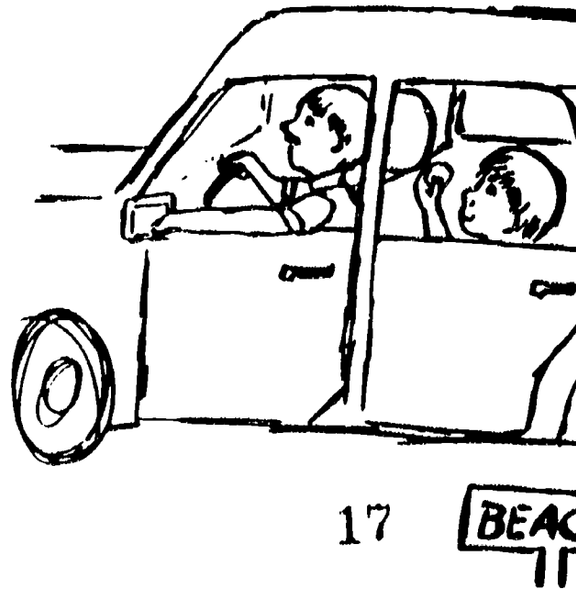


Figure 2: Use of Past Tense